Edition 28/07/2002

GF 100 FILTERING AND TEST UNIT

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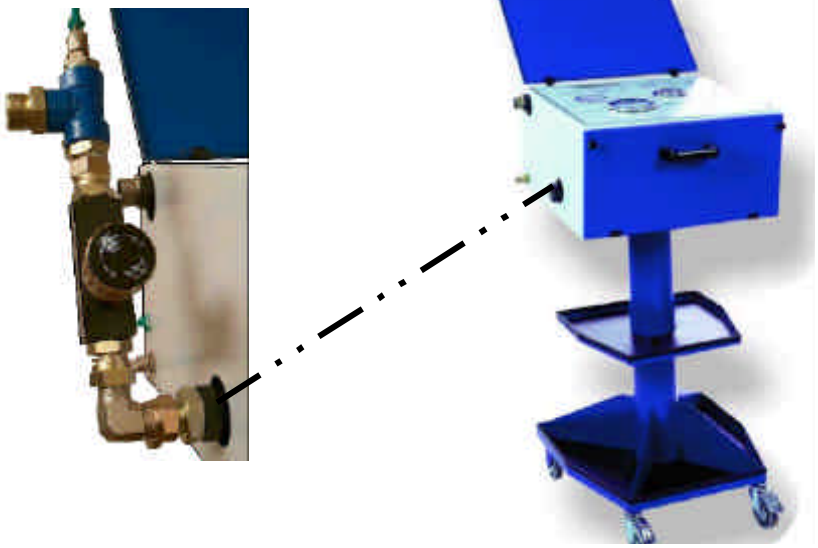

USER MANUAL

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GENERAL INFORMATION

"**GF-100**" filtering unit is specifically designed to make hydraulic circuit cleaning easier before starting working operations or after a maintenance service. This operation is the key factor in order to supply to the client a correctcly working hydraulic system, without particles or foreign bodies that might jeopardize the operation of hydraulic and mechanical members. The new modern design allows the operator to easily control the circuit working parameters such as:

- Hydraulic oil temperature coming out from oil tank
- Pressure in the cleaning filter
- Hydraulic circuit oil flow
- Hydraulic circuit max. working pressure

Moreover, the supporting trolley, provided with a shelf for tools, allows an easy handling and moving of the whole unit in the working area.

FILTRATION GROUP

The filtering unti is provided with a pair of filters in dual configuration. The first one has a filtering degree of 120 μm and the second one 60 μm. Bothe filters are interchangeable cartridge type retaining the possibility to increase the filtration degree until 25 μm using different cartridges.

MAX. WORKING PRESSURE SETTING GROUP

The "**GF-100**" unit is equipped with a manometer reading up to 600 bar, which can be connected to the max. pressure area of te hydraulic circuit, in order to check the real load levels and eventually adjust the max. pressure valve setting.

"KIT ETA-PUMP" FOR TESTING THE EFFICIENCY OF THE PUMP (OPTIONAL)

With the "**KIT ETA-PUMP**" aviable on request, the "**GF-100**" unit can testing the efficiency of the pump (pressure – flow).

WORKING OPERATIONS

The "GF 100" unit has been designed to perform the following operations

CIRCUIT CLEANING OR FILTERING

To correctly perform this operation, check the following procedure:

1) Disconnect exhaust pipe from oil tank
2) Connect the exhaust pipe to the inlet (IN) located on the left side of the filtering unit
3) Connect a new pipe from the outlet port (OUT) of the filtering unit to the exhaust port of the tank. In case a filter is fitted to the tank, remove the filtering cartridge from it to allow a free flowing to the tank of the oil filtered by the filtering unit GF 100. In any case, **the maximum exhaust pressure** (after the GF 100) **must be lower than 5 bar**.
4) Start up the whole installation in order to reach a complete rotation of the oil contained in the tank. The duration of the required cycle (in minutes) can be easily calculated dividing the tank capacity (in litres) by the pump displacement (ltres per minute).

CHECKING THE MAX. WORKING PRESSURE

Connecting with the supplied pipe M16 the max. pressure circuit area to the inlet port of the high pressure manometer located on the the left side of the filtering unit, the real working pressure of the hydraulic system can be checked. Thanks to the value indicated by the GF 100 filtering unit, you can set the maximum pressure relief valve of the circuit at the required value.

NOTE:

Before effecting this operation, it is necessary to contact with the manufacturer or distributor of the hydraulic components of the system to check the maximum value which the valve must open at.

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TESTING THE EFFICIENCY OF THE PUMP

Connecting with the supplied pipe M16 the max. pressure circuit area to the inlet port of the "**KIT ETA-PUMP**" as show in the Picture 3 (Working efficiency test scheme), the real efficiency of the pump can be checked.

NOTE:

For safety reason, is necessary to verify the Max. pressure relief valve setting (300 bar) before to start the test.

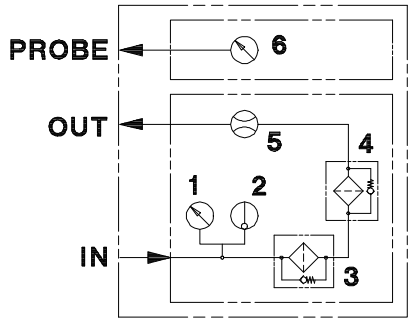
The best conditions of the test are: Oil ISO WG46 – Temperature 35-45°C.

*The maximum pressure for the pipe going to the "**KIT ETA-PUMP**" is 300 bar. For safety reason, never exceed this pressure limit.*

MAXIMUM WORKING PRESSURE (PROBE)

The maximum pressure for the pipe going to the manometer is 400 bar. For safety reason, never exceed this pressure limit.

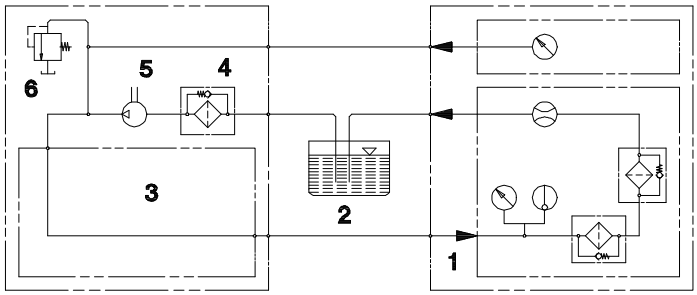
"GF-100" HYDRAULIC SCHEME



Picture 1 (GF-100 hydraulic scheme)

1 – Manometer (max. press. 10 bar)
2 – Thermometer (0-100°C)
3 – Filter 120 µm
4 – Filter 60 µm
5 – Flowmeter (0-100 l/min – 5 bar)
6 – Manometer (max.press. 600 bar)
IN – Oil inlet
OUT – Oil outlet
PROBE – High pressure connection

WORKING FILTRATION SCHEME



Picture 2 (Working hydraulic scheme)

1 – GF-100 Filtering unit
2 – Oil tank
3 – Hydraulic circuit
4 – Suction filter
5 – Pump
6 – Max. pressure relief valve

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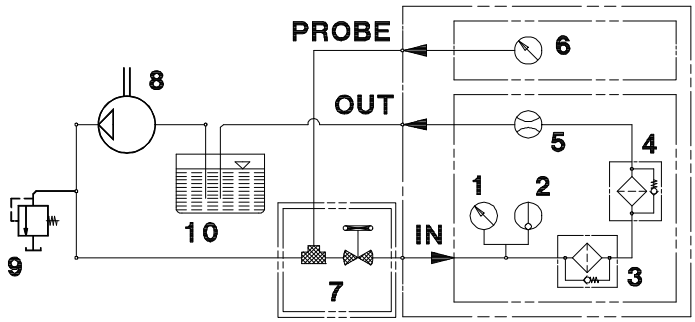
WORKING EFFICIENCY TEST SCHEME

Picture 3 (Working efficiency test scheme)



1 – Manometer (max. press. 10 bar)
2 – Thermometer (0-100°C)
3 – Filter 120 µm
4 – Filter 60 µm
5 – Flowmeter (0-100 l/min – 5 bar)
6 – Manometer (max.press. 600 bar)
7 – "**KIT ETA-PUMP**"
8 – Pump
9 – Max. pressure relief valve
10 – Oil tank
IN – Oil inlet
OUT – Oil outlet
PROBE – High pressure connection

NOTE

*For safety reason, is necessary to verify the Max. pressure relief valve "**9**" setting (300 bar) before to start the test.*

MAINTENANCE

Maintenance of the **GF 100** unit consists of a periodical replacement and cleaning of filter cartridge. In order to effect this operation, simply follow the steps listed herebelow:

1) Open the front port of the GF 100
2) With a hexagonal wrench remove the cover screws of the first filter (the located closer to the port). Then, place under the filter cover a container to collect the oil present in the filter. When removing the screws, the spring inside the filterwill push the cover away from the housing
3) Remove the cover and the spring
4) Remove the cartridge
5) Clean the cartridge and/or replace it (in case you have to replace it, use origianl cartridge only). Pay attention to the by pass valve
6) Insert the cartridge in the original position
7) Insert the spring and fit the cover back in place, paying attention that the gasket is not damaged and correctly placed
8) Lock the cover with the screws originally removed
9) Repeat the same procedure with the second filter
10) Close the front port of the GF 100 unit

Note:

For any further operation different from the above described, please contact the manufacturer

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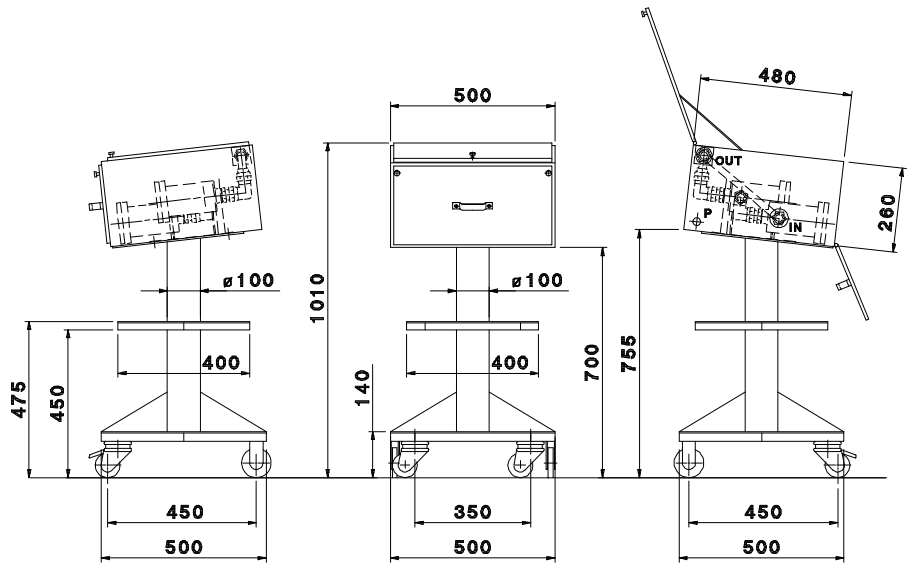
DIMENSIONS AND ORDERING CODES "GF-100"



Picture 4 (Overall dimensions GF-100)

"GF 100" technical specifications				
Code	***Description***	***Maximum pressure (bar)***	***Maximum temperature (°C)***	***Max. oil flow (l/min.)***
0.00.99.008.00	Filtering circuit GF-100	**10**	**100**	**100**
	Maximum pressure check circuit GF-100	**400**	**-**	**-**
0.99.00.349.00	Efficency Test circuit "GF-100"	**300**		**100**

Table 1 (GF-100 technical specifications)

"GF 100" spare-parts			
Code	***Description***	***Q.ty***	***Notes***
0.99.00.344.00	Cartridge filtering degree 120 µm	1	By-pass valve set at 1,5 bar
0.99.00.345.00	Cartridge filtering degree 60 µm	1	By-pass valve set at 1,5 bar
0.99.00.346.00	Cartridge filtering degree 25 µm	1	By-pass valve set at 1,5 bar
0.99.00.347.00	Cartridge filtering degree 10 µm	1	By-pass valve set at 1,5 bar
0.99.00.348.00	High pressure mini-connector	1	Lenght 3 mt. – Threaded connector M16
2.99.141.0000	KIT ETA-PUMP (3/4")	1	Max 300 bar – 100 Lpm

Table 2 (GF-100 spare parts)

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NOTES

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